

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANTS: PECEN, Mark et al.

EXAMINER: Wendell, A.

SERIAL NO.: 10/804,292

GROUP: 2618

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CASE NO.: CS24583RL

TITLED: APPARATUS AND METHOD FOR HANDOVER BETWEEN TWO
NETWORKS DURING AN ONGOING COMMUNICATION

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APPEAL BRIEF

Commissioner for Patents
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Sir:

This is Applicant's Appeal Brief. A Notice of Appeal was filed June 7, 2007.

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1. REAL PARTY IN INTEREST

This application has been assigned to Motorola, Inc. by the inventors on July 6 and 8, 2004 and is found on Reel/frame: 015689/0851.

2. RELATED APPEALS AND INTERFERENCES

Applicant and the undersigned attorney are not aware of any appeals or any interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in the pending appeal.

3. STATUS OF CLAIMS

Claims 1, 3-10, 12-18, 20-27, and 29-34 are pending in this application.

The Office Action rejects, under 35 U.S.C. § 102, claims 1-4, 7-8, 18-20, and 24-25 over Shaheen et al. (U.S. Patent Pub. No. 2004/0203792). The Office Action also rejects, under 35 U.S.C. § 103, claims 5-6 and 22-23 over Shaheen et al. and Boyer et al. (U.S. Patent No. 7,050,812), claims 9 and 26 over Shaheen et al. and Stumpert et al. (U.S. Patent Pub. No. 2004/0157600), claims 10, 11, 16, 17, 21, 27, 33, and 34 over Shaheen et al. and Ovesjo et al. (U.S. Patent Pub. No. 2002/0160785), claims 12, 14, 29, and 30 over Shaheen et al., Ovesjo et al., and Boyer et al., and claims 13, 15, 31, and 32 over Shaheen et al., Ovesjo et al., and Yahagi (U.S. patent No. 7,065,360).

4. STATUS OF AMENDMENTS

All amendments to the claims have been entered. No specification amendments have been made.

5. SUMMARY OF CLAIMED SUBJECT MATTER

In this summary of claimed subject matter, all citations are to the specification of United States Patent Application 10/804,292, filed on March 19, 2004. Further, all citations are illustrative only and support for the cited element may be found elsewhere in the specification.

Independent claim 1:

One aspect of the invention relates to a method (400) in a communication device (200) for handover from a first radio access network (130) to a second radio access network (140), the first radio access network (130) using a different mode of communication from the second radio access network (140), the method comprising:

entering an ongoing communication (420) on the first radio access network (130);

detecting a presence of a second radio access network (430), the second radio access network (140) being unregistered with the first radio access network (130) at initial detection of the presence of the second radio access network (140) while in the ongoing communication; and

transferring the ongoing communication (440) from the first radio access network (130) to the second radio access network (140),

wherein the first radio access network (130) is a cellular radio access network and wherein the second radio access network (140) is a wireless local area network.

For a more detailed discussion, see Fig. 4 and the text from page 7, line 6 through page 8, line 14.

Independent claim 10:

Another aspect of the invention relates to a method in a radio access network (500) for handover from a first radio access network (130) to a second radio access network (140), the first radio access network (130) using a different mode of communication from the second radio access network (140), the method (500) comprising:

recognizing an ongoing call (520) of the communication device in a serving cell on the first radio access network;

receiving a measurement report (530) including an identifiable value associated with a serving cell of the first radio access network (130); and

transferring (540) the call from the first radio access network (130) to the second radio access network (140),

wherein the identifiable value associated with the serving cell comprises a fictitious neighbor value (see the text from page 8, line 25 through page 9, line 22).

For a more detailed discussion, see Fig. 5 and the text from page 8, line 15 through page 9, line 22.

Independent claim 18:

Another aspect of the invention relates to a communication device for handover from a first radio access network (130) to a second radio access network (140), the first radio access network (130) using a different mode of communication from the second radio access network (140), the communication device (200) comprising:

a transceiver (250);

a controller (220) coupled to the transceiver (250), the controller (220) configured to enter an ongoing communication on the first radio access network (130) via the transceiver(250);

a network detection module (290) configured to detect the presence of a second radio access network (140), the second radio access network (140) being unregistered with the first radio access network (130) at initial detection of the presence of the second radio access network (140) while in the ongoing communication; and

a handover module (292) configured to transfer the ongoing communication from the first radio access network (130) to the second radio access network (140),

wherein the first radio access network (130) is a cellular radio access network and wherein the second radio access network (140) is a wireless local area network.

For a more detailed discussion see Fig. 2 and the text from page 4, line 5 through page 5, line 3.

Independent claim 27:

Another aspect of the invention relates to a controller (item 300, in Fig. 3)in a radio access network for handover from a first radio access network (130) to a second radio access network (140), the first radio access network (130) using a different mode of communication from the second radio access network (140), the controller comprising:

- a communication connection module (310) configured to connect an ongoing communication of the communication device in a serving cell on the first radio access network;

- a measurement report module (320) configured to receive a measurement report; and

- a handover module (330) configured to transfer the ongoing communication from the first radio access network to the second radio access network,

wherein the measurement report comprises a fictitious neighbor value (see the text from page 8, line 25 through page 9, line 22).

For a more detailed discussion, see Fig. 3 and the text from page 6, line 4 through page 7, line 5.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1, 3-10, 12-18, 20-27, and 29-34 are pending in this application.

The Office Action rejects, under 35 U.S.C. § 102, claims 1-4, 7-8, 18-20, and 24-25 over Shaheen et al. (U.S. Patent Pub. No. 2004/0203792). The Office Action also rejects, under 35 U.S.C. § 103, claims 5-6 and 22-23 over Shaheen et al. and Boyer et al. (U.S. Patent No. 7,050,812), claims 9 and 26 over Shaheen et al. and Stumpert et al. (U.S. Patent Pub. No. 2004/0157600), claims 10, 11, 16, 17, 21, 27, 33, and 34 over Shaheen et al. and Ovesjo et al. (U.S. Patent Pub. No. 2002/0160785), claims 12, 14, 29, and 30 over Shaheen et al., Ovesjo et al., and Boyer et al., and claims 13, 15, 31, and 32 over Shaheen et al., Ovesjo et al., and Yahagi (U.S. patent No. 7,065,360).

7. ARGUMENTS

The outstanding rejections are respectfully traversed and reconsideration in view of Applicant's remarks is respectfully requested.

A. The Office Action rejects, under 35 U.S.C. § 102, claims 1-4, 7-8, 18-20, and 24-25 over Shaheen et al. (U.S. Patent Pub. No. 2004/0203792). This rejection is respectfully traversed.

Applicant respectfully maintains that Shaheen et al. does not disclose or suggest detecting a presence of a wireless local area network, the wireless local area network being unregistered with the cellular radio access network at initial detection of the presence of the wireless local area network while in the ongoing communication and transferring the ongoing communication from the cellular radio access network to the wireless local area network, as recited in independent Claim 1 and similarly recited in independent claim 18.

The concept of one network being unregistered with another is simply not taught or present in Sheeheen et al.

It is noted, that in previous Office Actions, there has not been a clear citation in Shaheen et al. for teaching a wireless local area network being unregistered with the cellular radio access network at initial detection of the presence of the wireless local area network. In fact, as best understood by Applicant, Applicant has expressly pointed out that Shaheen appears to disclose the opposite of the claimed feature.

Further, it is respectfully submitted that the previous Office Actions have not properly complied with the requirements of a rejection under 35 USC 102 and the MPEP, wherein it states: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" (MPEP §2131, citing *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). More particularly, the Examiner's table, with the heading Response to Arguments (Advisory Action at page 13 and 14), does not properly comply with the requirements under 35 USC 102. In particular, the Examiner stated that "Applicant has failed to point out where in Shaheen that it teaches the local area network is specifically

registered with the UMTS network". In response, Applicant would like to point out, that according to 35 USC 102, that a reference must describe all of the claimed features. This statement is like an admission that Shaheen et al. does not in fact disclose the claimed feature. More particularly, the Examiner has failed to establish anticipation, because each and every element as set forth in the claim must be found, either expressly or inherently described, in a single prior art reference". This has not been done. Accordingly, it is respectfully submitted that withdrawal of this rejection is deemed appropriate.

Applicant asserts Shaheen does not disclose "The wireless local network is not registered with the radio access network in s1-s2 of Fig. 7. As best understood, it listens for wireless local area network signals and then compiles a list of wireless local area networks available. Moreover, Shaheen does not disclose the wireless network listens for wireless local area network signals. To the contrary, Shaheen discloses the User Equipment (UE) 10 listens to a broadcast channel in step s1. Then, in step s2, the UMTS broadcasts the list of WLANs available (paragraph 0040). There is no disclosure of a radio access network listening for wireless local area network signals. Furthermore, there is no disclosure of the wireless local area network being unregistered with the radio access network. Not only does Shaheen not disclose the claimed feature, but it is speculated that Shaheen inherently must operate in an opposite manner to the claimed feature, in order to provide the list of WLANs available. In particular, in order for the UMTS system to have the list, the WLANs would need to have some sort of registration at initial detection of the presence of the wireless local area network by the communication device.

The Examiner has alleged that Shaheen et al. teaches "a method in a communication device for handover from a first radio access network UMTS (Fig. 7) to a second radio access network WLAN (Fig. 7)." And, that Shaheen et al. "teaches wherein the first radio access network is a cellular radio access network (UMTS) and wherein the second radio access network is a wireless local area network (Fig. 7 and Sections 0006-0009 and 0039-0043)." Applicant respectfully disagrees.

Applicant asserts the cited sections do not disclose Applicant's wireless local area network is unregistered with the cellular radio access network at initial detection of the presence of the wireless local area network, as recited in independent Claims 1 and 18.

In particular, Fig. 7 illustrates the UMTS broadcasts a list of WLANs available to the user equipment in step S2. This is done prior to the user equipment monitoring WLAN channels in step S6. Accordingly, the WLAN must have some sort of registration with the UMTS to be on the list that is broadcast in step S2. Also, the list is broadcast before the user equipment even begins monitoring the WLAN channels. Consequently, Fig. 7 discloses that a wireless local area network is registered with a cellular radio access network prior to initial detection of the wireless local area network. Accordingly, Fig. 7 and the associated sections do not disclose the wireless local area network is unregistered with the cellular radio access network at initial detection of the presence of the wireless local area network, as set forth in independent Claims 1 and 18.

In connection with Fig. 4, Shaheen et al. appears to disclose that user equipment has its receiver monitor wireless local area network (WLAN) channels, lock onto a WLAN channel, and initiate WLAN service. The WLAN authenticates the user equipment through an authentication procedure with a UMTS system (see paragraphs 0031 and 0032). However, this section still does not disclose the wireless local area network is unregistered with the cellular radio access network at initial detection of the presence of the wireless local area network, as in Claims 1 and 18. In fact, one skilled in the art would understand or deduce from Shaheen et al., that to perform an authentication, the wireless local area network would inherently have some sort of registration with the cellular radio access network. More particularly, the WLAN would have to be registered for proper authorization to perform an authentication procedure. Consequently, not only does Shaheen et al. not disclose a wireless local area network that is unregistered with the cellular radio access network, Shaheen et al. actually appears to teach away from the claimed invention.

For the reasons detailed herein, Shaheen et al. does not disclose or suggest detecting a presence of a wireless local area network, the wireless local area network being unregistered with the cellular radio access network at initial detection of the presence of the wireless local area network while in the ongoing communication and transferring the ongoing communication from the cellular radio access network to the wireless local area network, as recited in independent Claim 1 and similarly recited in independent Claim 18.

The remaining claims depend from the independent Claims 1 and 18 and also define patentable subject matter. Accordingly, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. § 102 and 35 U.S.C. § 103.

B. The Office Action also rejects, under 35 U.S.C. § 103, claims 5-6 and 22-23 over Shaheen et al. and Boyer et al. (U.S. Patent No. 7,050,812), claims 9 and 26 over Shaheen et al. and Stumpert et al. (U.S. Patent Pub. No. 2004/0157600), claims 10, 11, 16, 17, 21, 27, 33, and 34 over Shaheen et al. and Ovesjo et al. (U.S. Patent Pub. No. 2002/0160785), claims 12, 14, 29, and 30 over Shaheen et al., Ovesjo et al., and Boyer et al., and claims 13, 15, 31, and 32 over Shaheen et al., Ovesjo et al., and Yahagi (U.S. patent No. 7,065,360). This rejection is respectfully traversed.

Claim 10 is directed to a method in a radio access network (500) for handover from a first radio access network (130) to a second radio access network (140), the first radio access network (130) using a different mode of communication from the second radio access network (140), the method (500) comprising: recognizing an ongoing call (520) of the communication device in a serving cell on the first radio access network; receiving a measurement report (530) including an identifiable value associated with a serving cell of the first radio access network (130); and transferring (540) the call from the first radio access network (130) to the second radio access network (140), wherein the identifiable value associated with the serving cell comprises a fictitious neighbor value. (Please note that Applicant has mapped Claim 10 in this paragraph to include item numbers, a figure and cited text, in a manner similar to that done in section 5 of this Brief, to assist the reader in understanding the invention. Such mapping is not intended to be limiting. For example, see Fig. 5 and the text from page 8, line 15 through page 9, line 22). As detailed herein, none of the applied references disclose or suggest the invention.

As known by the Board, to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the reference or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references, when combined, must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed

combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure (MPEP 2142). In addition, the prior art must suggest the desirability of the claimed invention (MPEP 2143.01).

Ovesjo et al. discloses inter-radio access technology (RAT) handover for wireless telecommunications. Basic actions involved in an inter-RAT handover procedure include a measurement report being sent from a mobile terminal 30 to a base station controller 26. The measurement report includes measurements, such as signal strength, for selected channels of a first radio access network. The measurement report also includes measurements of selected channels for a second radio access network (paragraph 0037). Contrary to Applicant's independent Claims 10 and 27, the measurement report does not include a fictitious neighbor value. In particular, measurements, such as signal strength measurements of the first and second radio access networks are actual measurements in Ovesjo et al. They are not fictitious measurements. (See for example, the text from page 8, line 25 through page 9, line 22 for a more detailed discussion.)

The fact that Ovesjo et al. does not disclose receiving a measurement report including a fictitious neighbor value is further illustrated by the criteria disclosed in Ovesjo et al. to initiate an inter-RAT handover. In particular, Ovesjo et al. discloses an inter-RAT handover can be initiated when the quality of the downlink radio connection with the first radio access network, as reported by the measurement report message, falls below a predetermined threshold (paragraph 0038). This is not a fictitious neighbor value. It is an actual value because it is the quality of the downlink radio connection that is reported in the measurement report message. This is an example of teaching away from Applicant's invention in independent Claims 10 and 27.

Shaheen et al. has been discussed in detail above and to the extent applicable, is incorporated herein. Shaheen et al. fails to make up for the deficiencies of Ovesjo. Thus, it is respectfully submitted that Shaheen et al. and Ovesjo et al. do not disclose or suggest receiving a measurement report including a fictitious neighbor value, as set forth in independent Claims 10 and 27. Applicant respectfully disagrees with any allegation that "any measurement done can be fictitious," as contended by the Examiner.

Applicant asserts that Shaheen et al. and Ovesjo et al. fail to teach a fictitious neighbor value. This feature is simply absent in these references. Accordingly, Applicant

submits that the Examiner has failed to provide support for a 35 USC 103(a) obviousness rejection, because the two applied references fail to teach or suggest all of the claim limitations.

In yet further detail, it is respectfully submitted that inaccurate measurements are not "fictitious", in the context of Applicant's invention in Claims 10 and 27. First, the applied references do not teach inaccurate measurements. Second, the references do not teach of "fictitious" measurements, nor do they relate to taking such measurements. Third, inaccurate measurements are not "fictitious" measurements. Measurements that are "thrown off," as alleged in a previous Office Action, are inaccurate. They are not fictional or made up, as implied by the term "fictitious." They are actual values that have errors, not fictitious measurements, much less fictitious neighbor values.

And fourth, the measurements taught by the references do not teach a "fictitious neighbor value." The measurements include, for example, measurements of selected channels for a second radio access network (paragraph 0037 of Ovesjo et al.). The applied references do not teach a "fictitious neighbor value."

Therefore, Applicant respectfully submits that independent Claims 1 and 18 define patentable subject matter. In addition, Applicant respectfully submits that the dependent claims define patentable subject matter as well. Accordingly, withdrawal of this rejection is respectfully requested.

Accordingly, it is respectfully submitted that the pending claims are allowable.

8. SUMMARY

The Applicant respectfully submits that the pending claims fully satisfy the requirements of 35 U.S.C. §§102 and 103. In view of the foregoing, favorable consideration and passage to issue of the present application is respectfully requested.

Dated: September 18, 2007

Respectfully submitted,

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10. CLAIMS APPENDIX

1. A method in a communication device for handover from a first radio access network to a second radio access network, the first radio access network using a different mode of communication from the second radio access network, the method comprising:

entering an ongoing communication on the first radio access network;

detecting a presence of a second radio access network, the second radio access network being unregistered with the first radio access network at initial detection of the presence of the second radio access network while in the ongoing communication; and

transferring the ongoing communication from the first radio access network to the second radio access network,

wherein the first radio access network is a cellular radio access network and wherein the second radio access network is a wireless local area network.

2. (canceled)

3. The method according to claim 1, wherein the second radio access network is unregistered with the first radio access network by the first radio access network not initially having information on the second radio access network.

4. The method according to claim 1, wherein entering an ongoing communication further comprises entering a call while operating in a serving cell of the first radio access network,

wherein the method further comprises:

transmitting a measurement report including a fictitious neighbor value.

5. The method according to claim 4, wherein the fictitious neighbor value includes one selected from the group of

a same radio frequency value as a broadcast channel carrier of the serving cell including with a different color code from the broadcast channel carrier of the serving cell, and

a frequency value not used as a broadcast channel of the first radio access network of the serving cell.

6. The method according to claim 5, wherein the color code comprises an information field including a first three bits of a base station identity code.

7. The method according to claim 1, further comprising
setting up a data session with the second radio access network; and
querying the second radio access network for information relevant to a circuit handover.

8. The method according to claim 7, further comprising transmitting a message via a messaging service, the message including information on the second radio access network, the message indicating a desire to transfer the call from the first radio access network to the second radio access network.

9. The method according to claim 8, wherein the messaging service is a short messaging service and wherein the message is a short messaging service message.

10. A method in a radio access network for handover from a first radio access network to a second radio access network, the first radio access network using a different mode of communication from the second radio access network, the method comprising:
recognizing an ongoing call of the communication device in a serving cell on the first radio access network;
receiving a measurement report including an identifiable value associated with a serving cell of the first radio access network; and
transferring the call from the first radio access network to the second radio access network,

wherein the identifiable value associated with the serving cell comprises a fictitious neighbor value.

11. (canceled)

12. The method according to claim 10, wherein the fictitious neighbor value comprises one of

a same frequency value as a broadcast channel carrier of the serving cell with a different color code from the broadcast channel carrier of the serving cell, and

a frequency value not used as a broadcast channel of the first radio access network of the serving cell.

13. The method according to claim 10, wherein the second radio access network comprises a wireless local area network and the first radio access network comprises a cellular radio access network, and

wherein the ongoing communication comprises one of a data session and a call.

14. The method according to claim 12, wherein the color code comprises an information field including a first three bits of a base station identity code.

15. The method according to claim 10, wherein the ongoing communication comprises a connection between the communication device and a connected party.

16. The method according to claim 10, wherein transferring the ongoing communication from the first radio access network to the second radio access network comprises switching the connection between the communication device and the connected party via the first radio access network to a connection between the communication device and the connected party via the second radio access network.

17. The method according to claim 10, wherein transferring the ongoing communication from the first radio access network to the second radio access network further comprises bypassing the first radio access network.

18. A communication device for handover from a first radio access network to a second radio access network, the first radio access network using a different mode of communication from the second radio access network, the communication device comprising:

a transceiver;

a controller coupled to the transceiver, the controller configured to enter an ongoing communication on the first radio access network via the transceiver;

a network detection module configured to detect the presence of a second radio access network, the second radio access network being unregistered with the first radio access network at initial detection of the presence of the second radio access network while in the ongoing communication; and

a handover module configured to transfer the ongoing communication from the first radio access network to the second radio access network,

wherein the first radio access network is a cellular radio access network and wherein the second radio access network is a wireless local area network.

19. (canceled)

20. The communication device according to claim 18, wherein the second radio access network is unregistered with the first radio access network by the first radio access network not initially having information on the second radio access network when the network detection module detects the presence of the second radio access network.

21. The communication device according to claim 18, wherein the controller is configured to enter a the ongoing communication by entering a call while operating in a serving cell of the first radio access network, and

wherein the controller is further configured to generate and transmit a measurement report including a fictitious neighbor value associated with the serving cell.

22. The communication device according to claim 18, wherein the fictitious neighbor value includes one of

a same radio frequency value as a broadcast channel carrier of the serving cell including with a different color code from the broadcast channel carrier of the serving cell, and

a frequency value not used as a broadcast channel of the first radio access network of the serving cell.

23. The communication device according to claim 22, wherein the color code comprises an information field including a first three bits of a base station identity code.

24. The communication device according to claim 18, wherein the controller is further configured to set up a data session with the second radio access network and query the second radio access network for information relevant to a circuit handover.

25. The communication device according to claim 24, wherein the controller is further configured to transmit a message via a messaging service, the message including information on the second radio access network, the message indicating a desire to transfer the call from the first radio access network to the second radio access network.

26. The communication device according to claim 25, wherein the messaging service is a short messaging service and wherein the message is a short messaging service message.

27. A controller in a radio access network for handover from a first radio access network to a second radio access network, the first radio access network using a different mode of communication from the second radio access network, the controller comprising:

a communication connection module configured to connect an ongoing communication of the communication device in a serving cell on the first radio access network;

a measurement report module configured to receive a measurement report;
and

a handover module configured to transfer the ongoing communication from the first radio access network to the second radio access network,

wherein the measurement report comprises a fictitious neighbor value.

28. (canceled)

29. The controller according to claim 27, wherein the fictitious neighbor value includes one selected from the group of

a same radio frequency value as a broadcast channel carrier of the serving cell including with a different color code from the broadcast channel carrier of the serving cell, and

a frequency value not used as a broadcast channel of the first radio access network of the serving cell.

30. The controller according to claim 29, wherein the color code comprises an information field including a first three bits of a base station identity code.

31. The controller according to claim 27, wherein the second radio access network comprises a wireless local area network and the first radio access network comprises a cellular radio access network, and

wherein the ongoing communication comprises at least one of a data session and a call.

32. The controller according to claim 27, wherein the ongoing communication comprises a connection between the communication device and a connected party.

33. The controller according to claim 27, wherein the ongoing communication is transferred from the first radio access network to the second radio access network by switching the connection between the communication device and the connected party via the first radio access network to a connection between the communication device and the connected party via the second radio access network.

34. The controller according to claim 27, wherein the ongoing communication is transferred from the first radio access network to the second radio access network further by bypassing the first radio access network.

11. Evidence Appendix

None

12. Related Proceedings Appendix

None.